

1 ABSTRACT
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3 An improved spray head that is more effective and efficient at providing a
4 wider range of desired spray distributions includes the following elements: (a) a
5 plurality of fluidic oscillators, each oscillator having a fluidic circuit embedded in its
6 top surface, with this circuit forming a path in which a fluid may flow through the
7 oscillator, wherein these oscillators are stacked one on top of the other, with the sides
8 of the oscillators being configured so that they stack such that the flow of fluid from
9 adjoining oscillators in the stack have an angle of divergence between the centerlines
10 of the planes defined by the flows from the outlets of the adjoining oscillators that is
11 in the range of 2 – 5 degrees, (b) a plurality of cover plates, with each cover plate
12 being proximate the top surface of one of the fluidic oscillators and attached to the
13 oscillator so as to provide a seal against the flow of fluid from the oscillator's fluidic
14 circuit, (c) a carrier assembly having a front and a rear surface and a cavity extending
15 between these surfaces, with this cavity being configured so to receive and hold the
16 stack of fluidic oscillators in the spray head, and (d) a stopper unit that attaches to the
17 assembly's rear surface and seals it against leakage from the assembly's rear surface.

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